GM-X414

BRIDGEABLE FOUR-CHANNEL
POWER AMPLIFIER

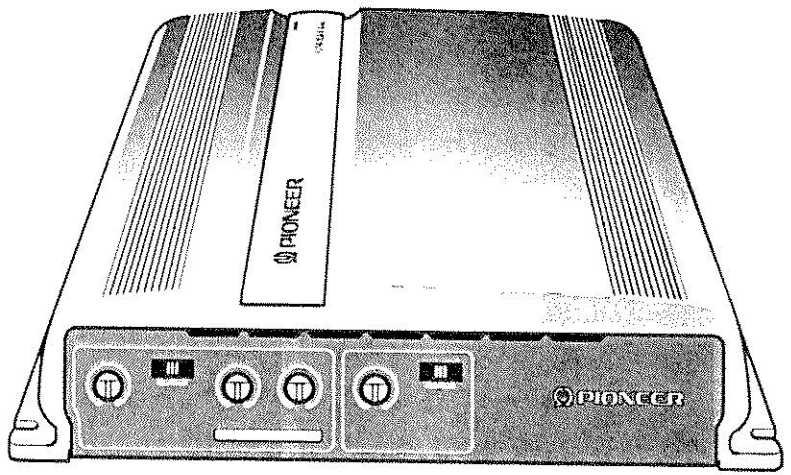
OWNER'S MANUAL

Thank you for purchasing this PIONEER product. Before attempting operation, be sure to read this manual.

Muchas gracias por la adquisición de este producto PIONEER. Antes de tratar de operarlo, lea atentamente este manual.

Muito obrigado por comprar este produto PIONEER. Leia este manual de instruções completamente antes de usar a unidade.

شكرا لك على شرائك جهاز پايونير هذا . قبل محاولة تشغيله تأكد من
قراءة هذا الدليل.



PIONEER®

The Art of Entertainment

ENGLISH

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PORTUGUÊS(B)

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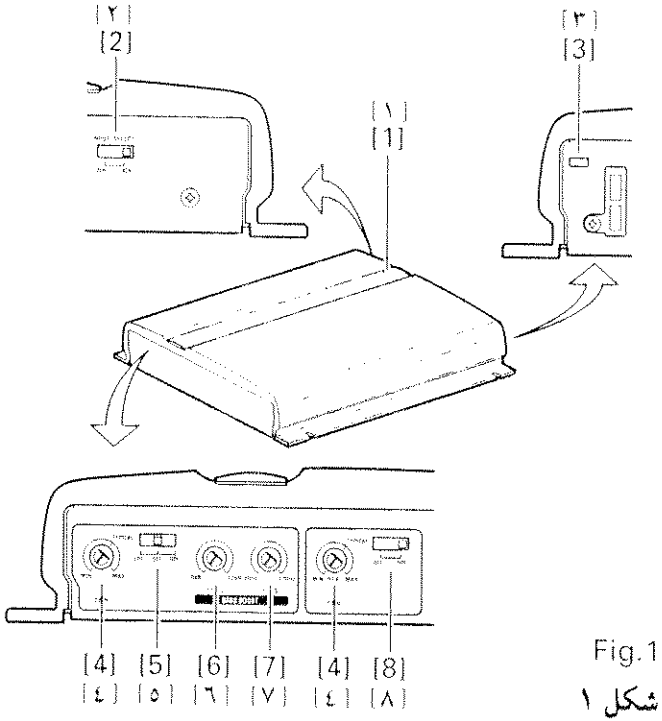

Fig.1

شكل ١

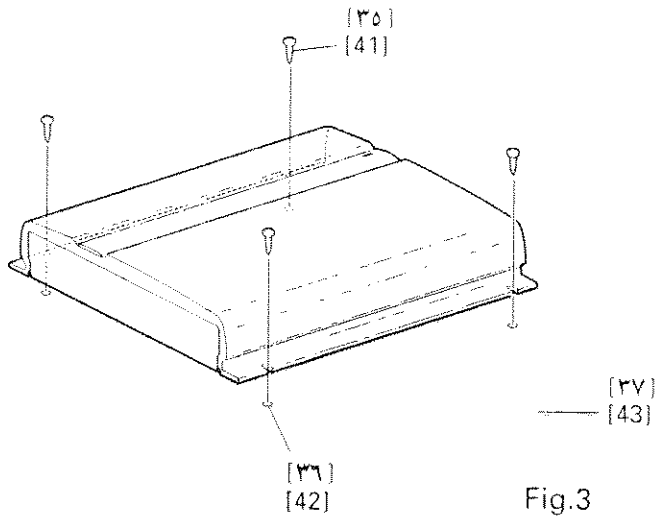

Fig.3

شكل ٣

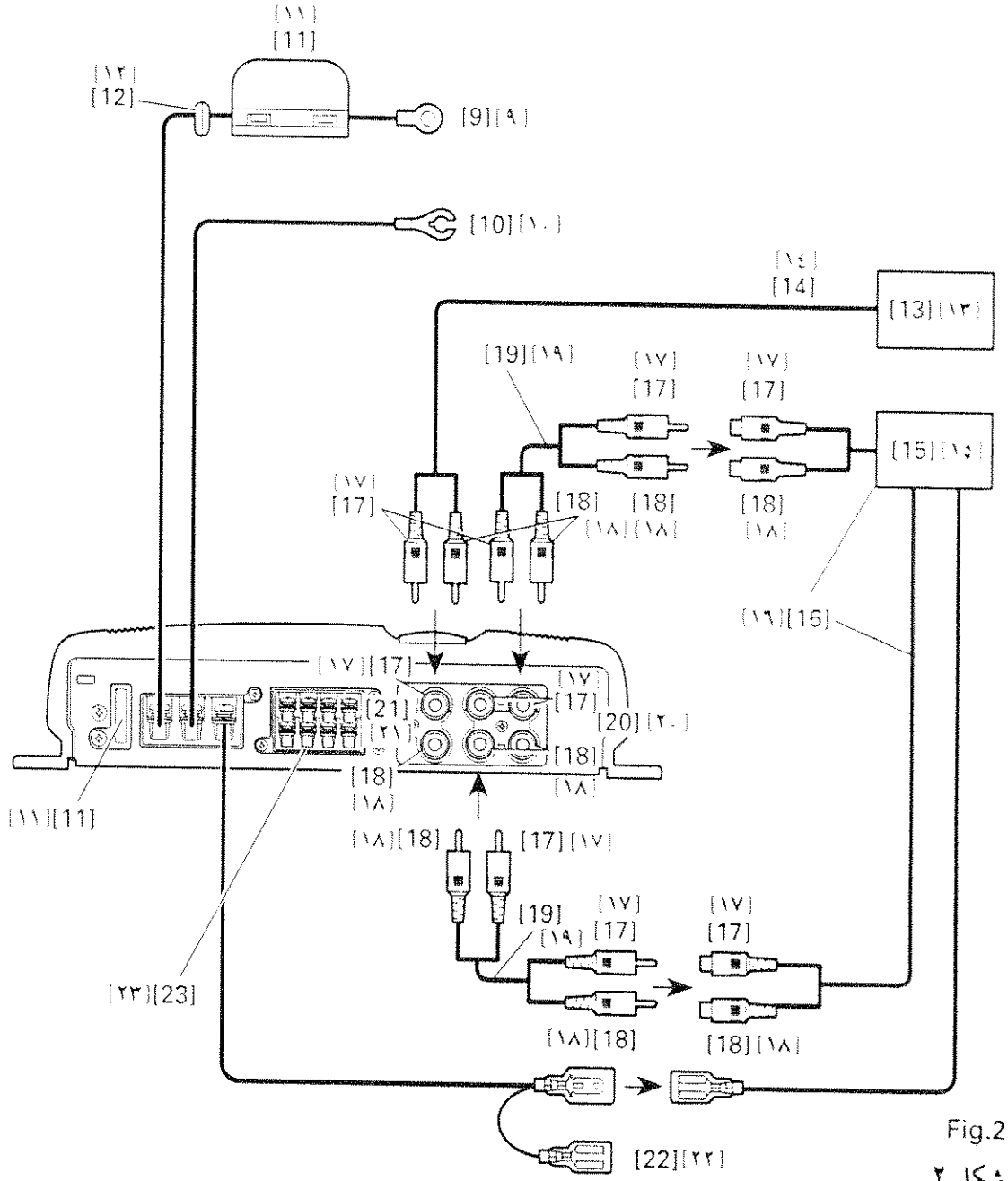

Fig.2

شكل ٢

Symbols

The following two symbols are used in this manual.

⚠ **CAUTION**

— never do this.

This symbol indicates dangerous actions which must be avoided.

⊘ **Note**

— follow the instructions carefully.

This symbol indicates action which can cause the equipment to fail if it is wrongly performed.

⚠ WARNING

- *For traffic safety and to maintain safe driving conditions, keep the volume low enough so that you can still hear normal traffic sound.*
- *Check the connections of the power supply and speakers if the fuse of the special red battery wire or the amplifier fuse blows. Detect the cause and solve the problem, then replace the fuse with another one of the same size and rating.*
- *To prevent malfunction of the amplifier and speakers, the protective circuit will cut the power supply to the amplifier (sound will stop) when an abnormal condition occurs. In such a case, switch the power to the system OFF and check the connection of the power supply and speakers. Detect the cause and solve the problem.*
- *Contact the dealer if you cannot detect the cause.*
- *To prevent an electric shock or short-circuit during connection and installation, be sure to disconnect the negative (–) terminal of the battery beforehand.*
- *Be sure to use the special red battery wire supplied with the amplifier and connect directly to the battery. Use the supplied black ground wire and connect to the vehicle body. (The supplied special red battery and ground wires are designed so that the amplifier can be connected safely.)*
- *Confirm that no parts are behind the panel when drilling a hole for installation of the amplifier. Be sure to protect all cables and important equipment such as fuel lines, brake lines and the electrical wiring from damage.*
- *To ensure proper heat dissipation of the amplifier, be sure of the following during installation.*
  - *— Allow adequate space above the amplifier for proper ventilation.*
  - *— Do not cover the amplifier with a floor mat or carpet.*

Setting the Unit

(Fig. 1)

[1] Power Indicator
The power indicator lights when the power is switched on.

[2] RCA Input Select Switch
For two-channel input, slide this switch to the left. For four-channel input, slide this switch to the right.

[3] BFC (Beat Frequency Control) Switch
If you hear a beat while listening to an AM broadcast with your car stereo, change the BFC switch using a small screwdriver.

[4] Input Level Adjustment
Adjusting the input level controls A and B will help match the output of the car stereo to the Pioneer amplifier. Input level control A is used to adjust the volume of speaker output A; Input level control B is used to adjust the volume of speaker output B. Normally, set the switch to the "TYPICAL" position. If the output is low even when the volume of the car stereo is turned up, turn these controls clockwise. If there is distortion when the volume of the car stereo is turned up, turn these controls counter-clockwise.

- If you only use one input pin plug, set the input level controls for speaker outputs A and B to the same position.
- Set the input level control to "TYPICAL" when this amplifier is connected to a Pioneer car stereo with RCA output jacks. If the sound is too low or distorts, adjust the input level control.

[5] Speaker Out A: LPF (Low-Pass Filter)/HPF (High-Pass Filter) Select Switch
Set the LPF/HPF select switch as follows according to the type of the speaker that is connected to the speaker output connector and the car stereo system:

LPF/HPF Select Switch	Audio frequency range to be output	Speaker Type
LPF (left)	Very-low-frequency range	Sub-woofer
OFF (center)	Very-low-frequency range to high-frequency range	Other than sub-woofer
HPF (right) *	Low-frequency range to high-frequency range	Other than sub-woofer

* Set the LPF/HPF select switch to the HPF (right) position if you want to cut the very-low-frequency range because it is not necessary for the speaker you use.

[6] Speaker Out A: Bass Boost Level Control
Bass boost level control can boost the level around the frequency selected by the bass boost frequency control to 0 to 12 dB.

[7] Speaker Out A: Bass Boost Frequency Control
You can select a bass boost frequency from 40 to 120 Hz with the bass boost control.

- [6], [7] can be adjusted only when the LPF/HPF select switch is set to a position other than HPF.

[8] Speaker Out B: HPF (High-Pass Filter) Select Switch
Set the HPF select switch as follows according to the car stereo system and the type of speaker connected to the speaker output:

HPF Select Switch	Audio frequency range to be output	Speaker Type
OFF (left)	Very-low-frequency range to high-frequency range	Other than sub-woofer
HPF (right) *	Low-frequency range to high-frequency range	Other than sub-woofer

* Set the HPF select switch to the HPF (right) position if you want to cut the very-low-frequency range because it is not necessary for the speaker you use.

Connecting the Unit

⚠ CAUTION

- *Remove the negative (–) terminal of the battery to avoid the risk of short-circuit and damage to the unit.*
- *Secure the wiring with cable clamps or adhesive tape. To protect the wiring, wrap adhesive tape around them where they lie against metal parts.*
- *Do not route wires where they will get hot, for example where the heater will blow over them. If the insulation heats up, it may become damaged, resulting in a short-circuit through the vehicle body.*
- *Make sure that wires will not interfere with moving parts of the vehicle, such as the gearshift, handbrake or seat sliding mechanism.*
- *Do not shorten any wires. Otherwise the protection circuit may fail to work when it should.*
- *Never feed power to other equipment by cutting the insulation of the power supply wire to tap from the wire. The current capacity of the wire will be exceeded, causing overheating.*
- *Be sure to use the special red battery wire supplied with the amplifier and connect directly to the battery. Use the supplied black ground wire and connect to the vehicle body. (The supplied special red battery and ground wires are designed so that the amplifier can be connected safely.)*

⊘ To prevent damage

- *Do not ground the speaker wire directly or connect a negative (–) wire for several speakers.*
- *Speakers to be connected to the amplifier should conform with the standards listed below. Otherwise damage will occur to the speaker. The speaker impedance must be 2 to 8 ohms. (4 to 8 Ω for stereo, monaural and other bridge connections.)*

Speaker		Power
Channel	Type	
Four-channel	Sub-woofer	Nominal input: Min. 30 W
	Other than sub-woofer	Max. input: Min. 60 W
Two-channel	Sub-woofer	Nominal input: Min. 70 W
	Other than sub-woofer	Max. input: Min. 140 W
Three-channel Speaker output A	Sub-woofer	Nominal input: Min. 30 W
	Other than sub-woofer	Max. input: Min. 60 W
Three-channel Speaker output B	Sub-woofer	Nominal input: Min. 70 W
	Other than sub-woofer	Max. input: Min. 140 W

If many units are connected

- *If the car stereo is kept on for a long time while the engine is at rest or idling, the battery may go dead. Turn the car stereo off when the engine is at rest or idling.*
- *If the blue wire of the amplifier is connected to the power terminal through the ignition switch (12 V DC), the amplifier will always be on when the ignition is on— regardless of whether the car stereo is on or off. Because of this, the battery could go dead if the engine is at rest or idle.*
- This unit is for vehicles with a 12-volt battery and negative grounding. Before installing it in a recreational vehicle, truck, or bus, check the battery voltage.
- Install and route the special red battery wire supplied with the amplifier as far away as possible from the speaker wires. Install and route the special red battery wire, ground wire, speaker wires and the amplifier as far away as possible from the antenna, antenna cable and tuner.

(Fig. 2)

[9] Special red battery wire
After making all other connections at the amplifier, connect the battery wire terminal of the amplifier to the positive (+) terminal of the battery.

[10] Ground wire (black)
Connect to metal body or chassis.

[11] Fuse (Special red battery wire: 30 A, Amplifier: 25 A)

[12] Grommet
[13] Amplifier with RCA input jacks
[14] RCA input
[15] Car stereo with RCA output jacks
[16] External Output
For details on how to connect to RCA input jacks A and B, see the "Connecting the Speakers and Input wires" section.
If only input pin plug, do not connect anything to RCA input jack B.
[17] White
[18] Red
[19] Connecting wires with RCA pin plugs (sold separately)
[20] RCA input jack A, B
[21] RCA output jack
[22] Blue
Connect the male terminal of this wire to the blue wire of the car stereo (system control terminal). The female terminal can be connected to the auto-antenna relay control terminal.
If the car stereo does not have a system remote control terminal, connect the male terminal to the power terminal through the ignition switch.
[23] Speaker output terminal
See the "Connecting the Speakers and Input wires" section for speaker connection instructions.

Connecting the Power Terminal

- *Be sure to use the special red battery wire supplied with the amplifier and connect directly to the battery. Use the supplied black ground wire and connect to the vehicle body. (The supplied special red battery and ground wires are designed so that the amplifier can be connected safely.)*

1. Pass the special red battery wire from the engine compartment to the interior of the vehicle.

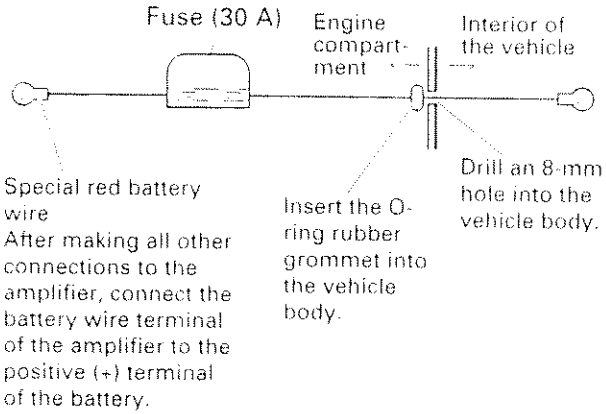
Fuse (30 A)
Engine compartment
Interior of the vehicle
Special red battery wire
After making all other connections to the amplifier, connect the battery wire terminal of the amplifier to the positive (+) terminal of the battery.
Insert the O-ring rubber grommet into the vehicle body.
Drill an 8-mm hole into the vehicle body.

Fig. 4

2. Connect the wires to the terminal.

- Fix the wires securely with the terminal screws.

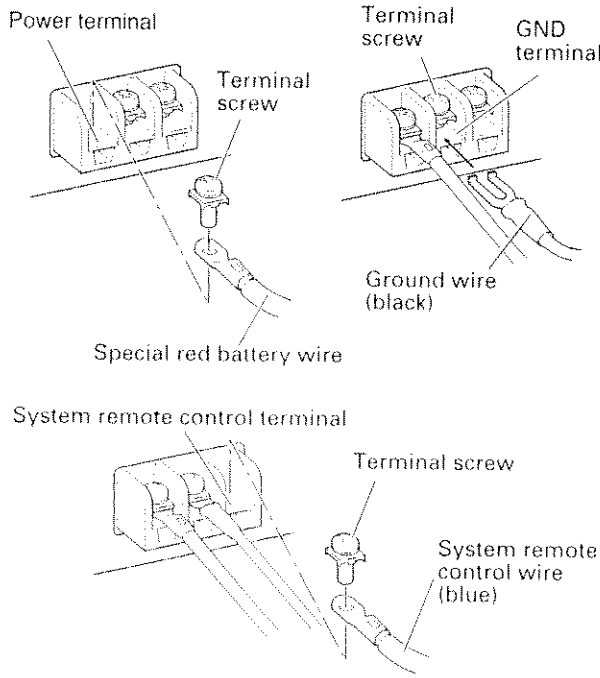

Fig. 5

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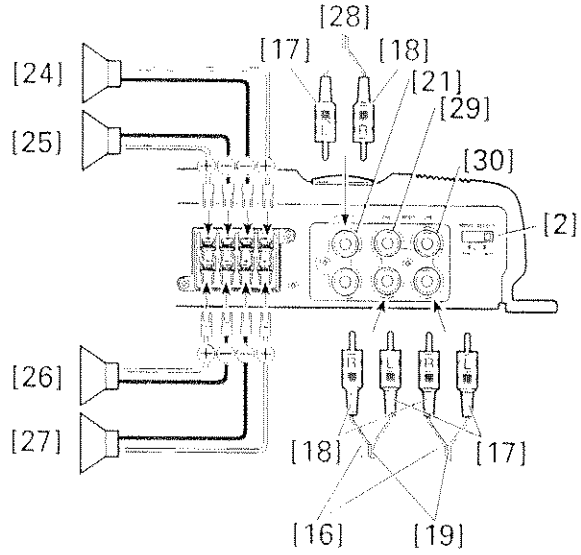

Fig. 7

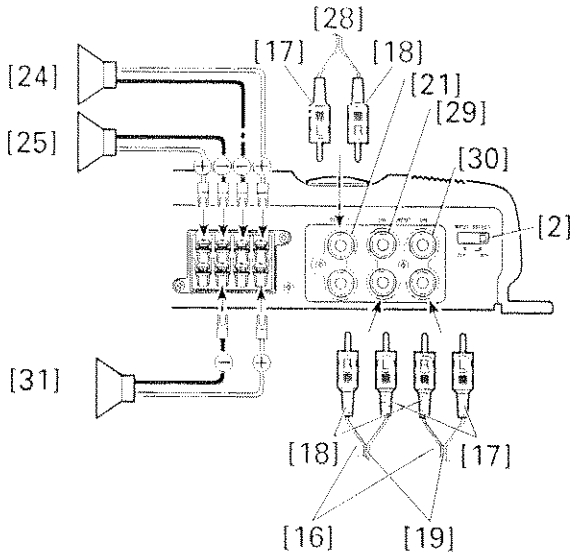

Fig. 8

Connecting the Speakers and Input wires

The speaker output mode can be four-channel, three-channel (stereo + mono) or two-channel (stereo, mono). Connect the speakers according to figures on the following pages.

Four-channel mode (Fig. 7)

[2] RCA Input Select Switch
For two-channel input, slide this switch to the left. For four-channel input, slide this switch to the right.
[16] From car stereo (RCA output)
If only one input plug is used, such as when the car stereo has only one output (RCA output), connect the plug to RCA input A, and do not connect any plug to RCA input B.
[17] White
[18] Red
[19] Connecting wires with RCA plugs (sold separately)
[21] RCA output jack
[24] Speaker out B: Speaker (left)
[25] Speaker out B: Speaker (right)
[26] Speaker out A: Speaker (right)
[27] Speaker out A: Speaker (left)
[28] To a separate amplifier (RCA input)
[29] RCA input jack A
[30] RCA input jack B
• Connect the front or rear output plugs to jacks [29] or [30], according to your system.

Three-channel mode (Fig. 8)

[2] RCA Input Select Switch
For two-channel input, slide this switch to the left. For four-channel input, slide this switch to the right.
[16] From car stereo (RCA output)
If only one input plug is used, such as when the car stereo has only one output (RCA output), connect the plug to RCA input A, and do not connect any plug to RCA input B.
[17] White
[18] Red
[19] Connecting wires with RCA plugs (sold separately)
[21] RCA output jack
[24] Speaker out B: Speaker (left)
[25] Speaker out B: Speaker (right)
[28] To a separate amplifier (RCA input)
[29] RCA input jack A
[30] RCA input jack B
• Connect the front or rear output plugs to jacks [29] or [30], according to your system.
[31] Speaker out A: Speaker (mono)

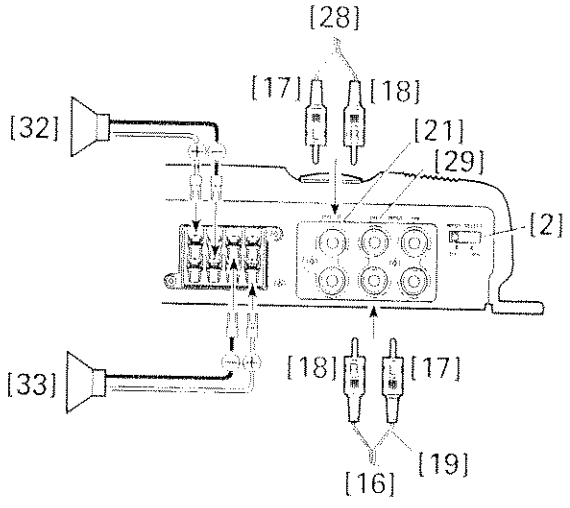

Fig. 9

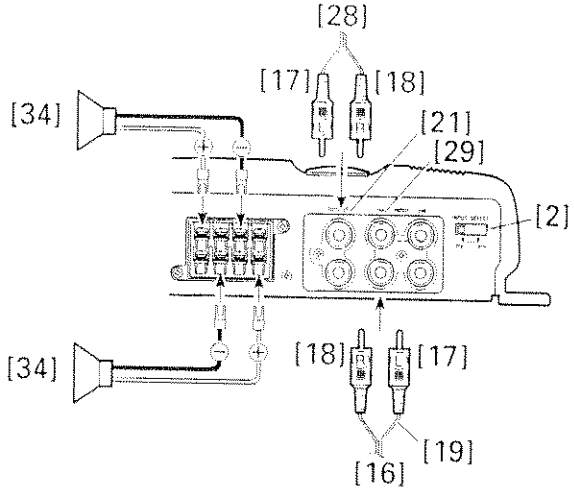

Fig. 10

Two-channel mode (stereo) (Fig. 9)

[2] RCA Input Select Switch
Slide this switch to the left.
[16] From car stereo (RCA output)
[17] White
[18] Red
[19] Connecting wire with RCA plug (sold separately)
[21] RCA output jack
[28] To a separate amplifier (RCA input)
[29] RCA input jack A
[32] Speaker (right)
[33] Speaker (left)

Two-channel mode (mono) (Fig. 10)

[2] RCA Input Select Switch
Slide this switch to the left.
[16] From car stereo (RCA output)
[17] White
[18] Red
[19] Connecting wire with RCA plug (sold separately)
[21] RCA output jack
[28] To a separate amplifier (RCA input)
[29] RCA input jack A
[34] Speaker (mono)

Connecting the Speaker Output Terminals

1. Expose the end of the speaker wires by about 10 mm and twist it using nippers or a cutter.

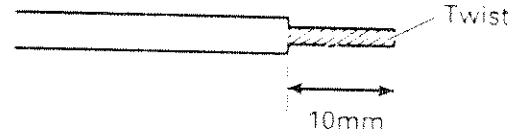

Fig. 11

2. Attach lugs to speaker wire ends.

- Use pliers, etc., to crimp lugs to wires.

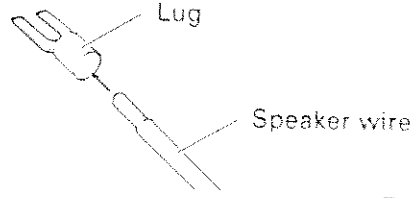

Fig. 12

3. Connect the speaker wires to the speaker output terminals.

- Fix the speaker wires securely with the terminal screws.

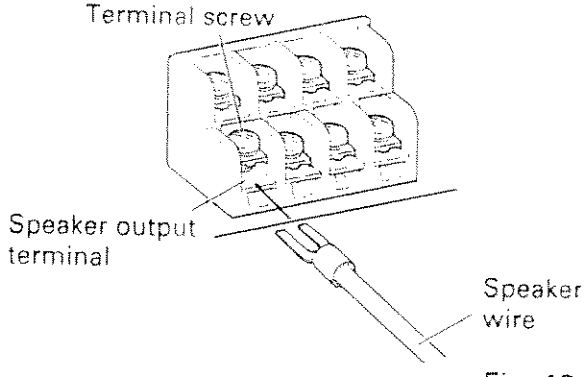

Fig. 13

Installation

⚠ CAUTION

- *Do not install in:*
  - *— Places where it could injure the driver or passengers if the vehicle stops suddenly.*
  - *— Places where it may interfere with the driver, such as on the floor in front of the driver's seat.*
- *Make sure that wires are not caught in the sliding mechanism of the seats, resulting in a short-circuit.*
- *Confirm that no parts are behind the panel when drilling a hole for installation of the amplifier. Protect all cables and important equipment such as fuel lines, brake lines and electrical wiring from damage.*
- *Install tapping screws in such a way that the screw tip does not touch any wires. This is important to prevent wires from being cut by vibration of the car, which can result in fire.*
- *To ensure proper installation, use the supplied parts in the manner specified. If any parts other than the supplied ones are used, they may damage internal parts of the amplifier, or they may become loose causing the amplifier to shut down.*

To prevent malfunction

- *To ensure proper heat dissipation of the amplifier, be sure of the following during installation.*
  - *— Allow adequate space above the amplifier for proper ventilation.*
  - *— Do not cover the amplifier with a floor mat or carpet.*
- *Do not install the amplifier near a door where it may get wet.*
- *Do not install the amplifier on unstable places such as the spare tire board.*
- *The best location for installation differs with the car model and installation location. Secure the amplifier at a sufficiently rigid location.*
- *Make temporary connections first and check that the amplifier and the system operate properly.*
- *After installing the amplifier, confirm that the spare tire, jack and tools can be easily removed.*

Example of installation on the floor mat or on the chassis

1. Place the amplifier where it is to be installed. Insert the supplied tapping screws (4 × 18 mm) into the screw holes. Push on the screws with a screwdriver so they make marks where the installation holes are to be located.
2. Drill 2.5-mm diameter holes at the point marked, and install the amplifier, either on the carpet or directly to the chassis.

(Fig. 3)
[35] Tapping-screws (4 × 18 mm)
[36] Drill a 2.5-mm-diameter hole
[37] Floor mat or chassis

Precautions

In case of trouble
When the unit does not operate properly, contact your dealer or the nearest authorized PIONEER Service Station.

Specifications

Power source	14.4 V DC (10.8 — 15.1 V allowable)
Grounding system	Negative type
Current consumption	18 A (at continuous power, 4 Ω)
Average current drawn*	5.5 A (4 Ω for four channels)
	10 A (4 Ω for two channels)
Fuse	25 A
Dimensions	206 (W) × 50 (H) × 270 (D) mm
Weight	2.9 kg (Leads for wiring not included)
Maximum power output	60 W × 4 / 140 W × 2 (EIAJ)
Continuous power output	30 W × 4 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.08% THD)
	70 W × 2 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.8% THD)
	35 W × 4 (at 14.4 V, 2 Ω, 20 — 20,000 Hz, 0.8% THD)
Load impedance	4 Ω (2 — 8 Ω allowable)
	(Bridge connection: 4 — 8 Ω allowable)
Frequency response	10 — 50,000 Hz (+0 dB, −1 dB)
Signal-to-noise ratio	108 dB (IEC – A network)
Separation	65 dB (1 kHz)
Low pass filter	Cut off frequency: 80 Hz
	Cut off slope: −18 dB/oct
High pass filter	Cut off frequency: 80 Hz
	Cut off slope: −12 dB/oct
Bass boost	Frequency: 40 — 120 Hz
	Gain: 0 — 12 dB
Input level / impedance	0.4 — 4 V / 22 kΩ

Note:
Specifications and the design are subject to possible modification without notice due to improvements.

***Average current drawn**
The average current drawn is nearly the maximum current drawn by this unit when an audio signal is input. Use this value when working out total current drawn by multiple power amplifiers.

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<96K00F0K00>

Published by Pioneer Electronic Corporation.
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Printed in U.S.A.
<HRD0031-A> ES